

### **REMARKS/ARGUMENTS**

Claims 2, 3, 8 and 13 have been canceled.

Claim 1 has been amended to import the limitations of indicated allowable Claim 13.

Claims 10 and 42 are amended in response to overcome claim objections.

Claim 24 is rewritten to depend on amended claim 1.

Claim 29 is amended to include further limitation for which support is present in the specification, inter alia, in paragraphs [0096], [0097], [0098], [0099], [0100], [0101], [0102] and [0103]. No new matter is added.

#### **Interview Summary**

Applicants thank Examiner Kugel for the courtesy of an in-person interview on October 18, 2006 with the undersigned. During the interview, undersigned pointed out how Kosmin is inconsistent with the teachings of the present invention and the shearing agitation of Kosmin will disintegrate the gels of the present invention, subsequently Kosmin does not anticipate the claims of the present invention. It was further discussed that importing the limitations of claim 13 to the independent claim or limiting gels to monolith form may further the prosecution. Undersigned agreed to consider such possibilities while maintaining the broadest possible claim scope legally entitled to the Applicant.

#### **Oath/Declaration**

Applicants hereby provide the required new Oath/Declaration indicating the serial number and filing date of the present patent application.

#### **Claim rejections – 35 USC §112**

Claim 20 is amended to address 35 USC §112 issues raised by the office action. Appropriate withdrawal of the rejection is requested.

Claim 42 is not amended in response to 35 USC §112 issues raised. Applicants would like to point to the preliminary amendment filed 7/16/2003 where “carbon dioxide” in claim 42 was replaced with “fluid”. Applicant’s believe that in light of the cited preliminary amendment, sufficient antecedent basis for fluid is present in the

preamble of claim 42 and hence withdrawal of rejection of claim 42 based on 35 USC §112 is requested.

### **Double Patenting**

In light of the claim amendments and the fact that claim 13 was not rejected based on any of the stated double patenting grounds, withdrawal of rejections based on non-statutory double patenting is respectfully requested.

With respect to claim 29, applicant's believe the additional limitations introduced by the current amendment renders the claim non-obvious over claims of US Patent No.6,670,402. Accordingly, withdrawal of rejection of claims 29, 30 and 31 based on double patenting is respectfully requested.

### **Claim Rejections – 35 USC § 102**

The cited prior art, Kosmin does not teach the claims of the present invention for the following reasons.

Kosmin teaches a vibratory agitation which results in shearing of the fluid by a mechanically moving device (Column 2 Lines 25-50). Such a teaching cannot be used in the present invention because the present invention is targeted to retaining the gel as it is formed without breaking it. If one were to use the teaching of Kosmin, all the formed gel materials will disintegrate resulting in a powder which is undesirable in the present invention. Kosmin does not anticipate the present invention because the teachings of Kosmin will be useful with the system described in the claims of the present invention. Applicant's respectfully request the withdrawal of 35 USC § 102 rejections based on Kosmin.

Additionally, Applicant's have amended Claim 1 to incorporate the limitations of allowed claim 13 to address the business needs. Such amendments are not made to overcome any rejection based on anticipation by Kosmin. Applicants hereby preserve the right to pursue the original claims through a continuation application.

**Claim rejections- 35 USC § 103**

Claims 2, 11,12,19 and 20 are rejected under 35 USC § 103(a) as being unpatentable over Kosmin in view of applicant's admission.

As discussed previously, Kosmin does not anticipate claim 1 and as a result does not render claims 2,11,12,19 and 20 obvious.

Additionally, in light of current amendments, the rejections are moot.

Claims 2-4, 21, 28-31 and 36 are rejected under 35 USC § 103(a) as being unpatentable over Cheng (US Patent 4,619,908) in view of Kosmin.

As discussed previously, Kosmin does not anticipate claim 1 or applying pressure pulses to the system. Moreover, there is no motivation, suggestion or teaching in the cited art or otherwise to combine Kosmin and Cheng. Interestingly, Examiner's cited motivation of "increase the production of aerogel through the application of shear" would be counterproductive to the systems of the present invention as the current invention tries to preserve the gels as opposed to disintegrating them through shear as taught by Kosmin (column 2, lines 27-32). Additionally, such a motivation is purely an impermissible hindsight in light of the present invention. Furthermore, rejection of claims 28 and 36 are not supported.

Additionally, current amendments render these 35 USC § 103(a) rejections moot.

Claims 5-7, 28 and 36 are rejected under 35 USC § 103(a) as being unpatentable over Cheng in view of Kosmin as applied to claims 2-4,17-21, 28-31 and 36 described above in further view of US Patent 5,295,509(Suto).

Suto allegedly discloses a pulse nozzle wherein two piezoelectric crystal elements drive a member to repeatedly open and close a flow of gas in a pulse manner at frequencies greater than 10 Hz. The alleged motivation is "to improve the capacity of the apparatus at a low temperature". The stated field of Suto is increasing reaction capacity at low temperatures whereas the present invention is different from reactions at low temperatures. Moreover, there is no suggestion or limitation that present invention be carried out only at low temperatures. As such withdrawal of such rejections is respectfully requested.

Additionally, current amendments render these 35 USC § 103(a) rejections moot.

Claim 21 is rejected under 35 USC § 103(a) as being unpatentable over Kosmin in view of Suto.

As argued in the previous paragraphs, Kosmin in view of Suto does not render the claim 21 obvious. Moreover, there is no motivation, suggestion or teaching either in the references or in the skill of a person of ordinary skill in the art. Accordingly, withdrawal of such rejections is respectfully requested.

Additionally, current amendments render these 35 USC § 103(a) rejections moot.

Applicants thank the Examiner for pointing out an allowable claim 13.

### **New Claims**

Claim 48 is a newly added claim for which support is present in the specification at least in paragraphs [0001], [0032].

Claim 49 is a newly added claim for which support is present in the specification at least in paragraphs [0081], [0082].

Claim 50 is a newly added claim for which support is present in the specification at least in paragraphs [0081], [0082].

Claim 51 is a newly added claim for which support is present in the specification at least in paragraphs [0041], [0042], [0044] and [0045].

No new matter is added.

Applicants would like to further point out that any form of shearing agitation as taught by Kosmin would damage bead, monolith or composite gel systems of the present invention. Kosmin further explains "...as described above, may greatly be improved if the said mixing of solution during evaporation is subjected to a high-speed vibratory agitation which shears the mass during the supercritical heat and solvent evaporation step" (column 2, line 27-31). It is evident that teaching of Kosmin would invariably shear the mass and disintegrate the gel. It is clear from the specification of the present invention (especially paragraphs [0031] and [0032] that the aerogels obtained be in the stated form and not in a disintegrated form.

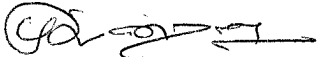
Therefore, Applicants believe the newly added claims are in condition of allowance.

### CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 508-691-1145.

Respectfully submitted,

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